

REMARKS

Claims 1-5, 9, and 12-14 are pending, and claims 1-5, 9, and 12-14 stand rejected. By virtue of this response, claims 1 and 12 have been amended, and no claims have been added or cancelled. The amendments to claims 1 and 12 are fully supported by the figures and description as filed; accordingly, no new matter has been added. Claims 1-5, 9, and 12-14 are currently under consideration.

For the Examiner's convenience, Applicants' remarks are presented in the same order in which they were raised in the Office Action.

Specification

The amendment filed September 21, 2006 stands objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. In particular, the recitation of "a feature" is objected to. As indicated herein, the recitation of "a feature," is cancelled. Accordingly, the objection is now moot.

Claim Rejections under 35 USC §112

Claims 1-5 and 9 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. As indicated herein, the recitation of "a feature," is cancelled. Accordingly, the rejection is now moot.

Claim Rejections under 35 USC §102

A. Claims 1-5 and 9 stand rejected under 35 U.S.C. 102(b) as being anticipated by Sakatani et al. (U.S. Patent No. 5,046,863).

Applicants submit that Sakatani fails to disclose or suggest the features of claim 1, as amended, and request the rejection be withdrawn. In particular, Sakatani fails to disclose or suggest an FDB system comprising a "step defined on the second interfacial surface of the journal gap" and

opposite a portion of the at least one set of fluid dynamic grooves across the journal gap, wherein the at least one step reduces the journal gap in a localized region of the at least one set of fluid dynamic grooves,” as recited by claim 1.

Applicants submit that lubricating pits 12 (which the Examiner has identified as at least one “step” on Page 4 of the Office Action) are not formed with the second interfacial surface of the journal gap as recited by claim 1. In particular, the journal gap is defined by the first and second interfacial surfaces of the shaft and sleeve, and it is well known and understood by one of ordinary skill in the art that the journal gap, and in particular, the interfacial surfaces thereof, provides support to the shaft during rotation (or vice versa) via lubricating fluid disposed in the journal gap.

In this light, the journal gap of the device disclosed by Sakatani includes the interfacial surfaces of the inner surface of sleeve 6 and opposing surfaces of shaft 4 located axially between pits 12 (as well as below the lower pit 12), which do not include a step as recited by claim 1. The surface portions of sleeve 6 including lubricating pits 12 do not form or constitute part of the journal gap because these portions do not define interfacial surfaces of the journal gap for supporting shaft 4. For example, lubricating pits 12 function as reservoirs for lubricating fluid, are disposed axially offset from the journal gap, and are in communication with “external atmosphere.” (Col. 1, lines 34-39.) Accordingly, the gap between sleeve 6 and shaft 4 in the region of lubricating pits 12 does not provide support during rotation and is therefore not a journal gap.

Additionally, claim 1 has been amended to recite that the at least one step defined on the second interfacial surface of the journal gap is “opposite a portion of the at least one set of fluid dynamic grooves across the journal gap, wherein the at least one step reduces the journal gap in a localized region of the at least one set of fluid dynamic grooves.” Thus, even if the Examiner takes the position that the portion of sleeve 6 between pits 12 forms a reduced journal gap, this portion fails to “reduce the journal gap in a localized region of the at least one set of fluid dynamic grooves.” Rather, Sakatani illustrates that the portion between pits 12 forms a uniform gap width with respect to the entire axial length of the fluid dynamic bearing grooves. (see, e.g., Figs. 1 and 4.)

Accordingly, for at least these reasons, Sakatani fails to disclose or suggest the features of claim 1 as amended and the rejection should be withdrawn. Additionally, claims 2-11, which depend from claim 1, should be allowed for at least similar reasons as claim 1.

B. Claims 12-14 stand rejected under 35 U.S.C. 102(b) as being anticipated by Moritan et al. (U.S. Patent No. 5,715,116).

Applicants submit that Moritan fails to disclose or suggest the features of claim 12, as amended, and request the rejection be withdrawn. In particular, Moritan fails to disclose or suggest an FDB motor comprising a “dynamic thrust bearing defined adjacent an end of the shaft,” as recited by claim 12.

Moritan discloses, for example, that shaft 12 (in particular shaft bottom face 12b) and thrust plate 2 form a thrust bearing, where abrasion is prevented by the lubricant which is filled in the very narrow second gap between the shaft bottom face 12b and the thrust plate 22. (Moritan, Col. 7, lines 52-58; Figs. 1(a)-1(d).) The thrust bearing, however, is not disclosed as a dynamic thrust bearing as recited by claim 12 (compare this with the clearly described “radial type dynamic bearings,” and “dynamic pressures,” generated by the herringbone-pattern of groove 12a at Col. 3, lines 16-21 and Col. 7, lines 47-58).

Accordingly, Moritan fails to disclose or suggest all of the features of claim 12 and the rejection should be withdrawn. Further, claims 13-16, which depend from claim 12, should be allowed for at least similar reasons as claim 12.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 146712016800. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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